



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,576	12/30/2005	Roger W. Carson	C & M	6621
James C. Wray Suite 300 1493 Chain Bridge Road McLean, VA 22101				
7550 10/18/2010			EXAMINER WILKINS III, HARRY D	
			ART UNIT	PAPER NUMBER
			1723	
			MAIL DATE	DELIVERY MODE
			10/18/2010 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,576

Applicant(s)

CARSON ET AL.

Examiner

Harry D. Wilkins, III

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 178-208 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 178-208 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status

1. The rejection of claim 207 under 35 U.S.C. 112, second paragraph has been withdrawn in view of Applicant's amendment of the claim.
2. The rejection of claims 178-183, 186-188 as being anticipated by Bremer et al (US 6,402,932) has been withdrawn in view of Applicant's amendment to claim 178 and presentation of new claim 208.
3. The rejection of claims as being anticipated by Surma et al has been withdrawn in view of Applicant's presentation of new claim 208 and amendment of claim 178 to depend from new claim 208.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 208 and 178-203 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 208 contains the trademark/trade name Teflon™. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of

goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe polytetrafluoroethylene and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claim 204 is rejected under 35 U.S.C. 102(a) as being anticipated by Bremer et al (US 6,402,932).

Bremer et al is applied to this claim for the reasons already of record.

Applicant's attention is directed to MPEP 2132.III. for the definition of "by others", such that due to the differences in inventive entity between Bremer et al and the current application, the Bremer et al reference is considered "by others".

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 208 and 178-185, 193-203 and 205-207 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al (US 6,402,932) in view of Carson et al (WO 03/031343).

Bremer et al teach (see abstract, figure 1 and col. 3, lines 9-56) a mediated electrochemical oxidation (MEO) apparatus comprising (a) an electrochemical cell (17) including two closed-loop systems, an electrolyte in each, and pumps (9 and 39) coupled to the closed-loop systems for circulating the electrolytes, (b) and (c) an ion selective membrane dividing the cell into anolyte and catholyte chambers, with an anolyte and an anode in the anolyte chamber and a catholyte and a cathode in the catholyte chamber, (d) Bremer et al teach (see col. 6, lines 40-42) that the electrolyte containment boundary is composed of materials resistant to the oxidizing electrolyte, e.g.-PTFE, (e) the apparatus also included a power supply connected to the anode and cathode for applying direct current, (f) an anolyte reaction chamber (5) as claimed, (g) an off-gas system (15) for processing off-gas from the anolyte reaction chamber, (h) an off-gas system (36) for processing off-gas from the catholyte reservoir, and (k) the capability to operate in the claimed automatic or manual modes.

Bremer et al do not teach (i) sensors and instrumentation and (j) computing devices communicating with the sensors, instrumentation and the apparatus as claimed.

Carson et al teach (see figure 2 and pages 36-41) additional control systems that can be added to a MEO apparatus including sensors and instrumentation and computing devices communicating with the sensors, instrumentation and the apparatus

adapted to provide enhanced control of the MEO apparatus to ensure total destruction of any organic material in the anolyte reaction chamber.

Therefore, it would have been obvious to one of ordinary skill in the art to have added the sensors and instrumentation of Carson et al to the apparatus of Bremer et al for the purpose of enhancing control of the MEO apparatus and to ensure the completion of the MEO process performed by the apparatus.

Regarding claim 178, with respect to the composition of the anolyte and the various processes claimed by Applicant in both the preamble and the body of the claim, such features relate to the intended use of the claimed structure. See MPEP 2114. Apparatus claims are defined by the claimed structural features and not by the manner in which the apparatus is used. Further, Bremer et al teach (see col. 3, lines 15-22) use of mediator ions such as Ag, Ce, Co, Fe, Mn or Ru in nitric, sulfuric or phosphoric acid.

Regarding claim 179, Bermer et al teach (see figure 1) that the apparatus included two closed-loop systems, an electrolyte in each, and pumps (9 and 39) coupled to the closed-loop systems for circulating the electrolytes. The electrolytes were separated by a membrane (M) in the electrochemical cell. Each closed-loop included a drain (11 and 41).

Regarding claim 180, Bremer et al teach (see col. 6, lines 40-42) that the electrolyte containment boundary is composed of materials resistant to the oxidizing electrolyte, e.g.-PTFE.

Regarding claims 181 and 187, Bremer et al included thermal control units (7, 31) for each of the anolyte and catholyte for providing heating or cooling of each as needed.

Regarding claim 182, Bremer et al teach (see abstract) utilizing ultraviolet light in the anolyte chamber.

Regarding claim 183, Bremer et al included condensers (15, 36) for processing the off-gases from each of the anolyte and catholyte.

Regarding claims 184, 185, 193-203 and 205-207, Bremer et al is silent with respect to the addition of the various features of these dependent claims.

Carson et al teach (see figures 1A-4 and related description) the various features of these dependent claims as being beneficial to the control and operation of the mediated electrochemical oxidation treatment.

Therefore, it would have been obvious to one of ordinary skill in the art to have added the additional features of Carson et al to the apparatus of Bremer et al for improving the operation and controllability of the apparatus of Bremer et al.

Regarding claim 186, Bremer et al teach (see col. 6, lines 40-42) that the electrolyte containment boundary is composed of materials resistant to the oxidizing electrolyte, e.g.,-PTFE.

Regarding claim 188, Bremer et al include an air sparge (35) as claimed.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 208 and 178 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 40-52 of U.S. Patent No.

7,479,215. Although the conflicting claims are not identical, they are not patentably distinct from each other because each and every structural element required by the present claim is present in the claims of the '215 patent.

12. Claims 208 and 178 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 40-52 of U.S. Patent No.

7,531,080. Although the conflicting claims are not identical, they are not patentably distinct from each other because each and every structural element required by the present claim is present in the claims of the '215 patent.

13. Claims 208 and 178 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 50-79 of U.S. Patent No.

7,517,445. Although the conflicting claims are not identical, they are not patentably

distinct from each other because each and every structural element required by the present claim is present in the claims of the '215 patent.

14. Claims 208 and 178 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 54-65 of U.S. Patent No. 7,387,719. Although the conflicting claims are not identical, they are not patentably distinct from each other because each and every structural element required by the present claim is present in the claims of the '215 patent.

15. Claims 208 and 178 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26-27 of U.S. Patent No. 7,488,409. Although the conflicting claims are not identical, they are not patentably distinct from each other because each and every structural element required by the present claim is present in the claims of the '215 patent.

Terminal Disclaimer

16. The terminal disclaimer filed on 14 October 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,420,932 has been reviewed and is accepted. The terminal disclaimer has been recorded. However, this does not obviate the double patenting rejections made on the other references. Further, the terminal disclaimer does not remove the reference as prior art under 35 U.S.C. 102(a).

Allowable Subject Matter

17. Claims 189-192 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments filed 26 August 2010 have been fully considered but they are not persuasive. Applicant has argued that:

- a. Bremer et al is not prior art under 35 U.S.C. 102(a) because it is not "by others"

In response, as above, see MPEP 2132.III.

- b. The non-statutory double patenting rejections based on U.S. Patent Nos. 7,479,215, 7,531,080, 7,517,445, 7,387, 719 and 7,488,409 should not be made because certain figures of the present application are not found in those patents.

In response, the standard for making a non-statutory double patenting rejection is the scope of the claims of the patent and the present application. The standard for making such rejections is not an identical disclosure. Each of the instant claim elements appear within the noted claims of the patents, and as such, the double patenting rejection is being maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/
Primary Examiner, Art Unit 1795

hdw